

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	1/13/2025	Country of Origin	Vanuatu
Sample Number	S2207	Country of Processing	USA
Product Name	Premium Roots	Manufacture Date	Dec-24
Lot Number	VPS2412-PR1	Best By Date	Dec-27

ITEM	SPECIFICATION	TEST RESULTS	METHOD
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PHYSICAL & CHEMICAL

Identification	Piper methysticum	Complies	HPLC
Appearance	Beige to Yellow Powder	Complies	Organoleptic
Kavalactone Standard	2-17 % Kavalactones	12.18%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	423165	HPLC
K/DHM	> 1.2 for Noble	5.3	Calculation

HEAVY METALS

		Results	
Arsenic (As)	NMT 1,000 (ppb)*	259 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	541 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	1250 ppb	FDA EAM 4.7
Mercury (Hg)	NMT 1,000 (ppb)*	< 10 ppb	FDA EAM 4.7

*Heavy Metals Action Limits Based on Maximum PDE at 5% Kavalactones. Results May Exceed 1,000 ppb action limit with higher kavalactone contents.

MICROBIOLOGICAL

		Results	
AEROBIC PLATE COUNT	NMT 10,000,000 cfu	420,000 cfu / 10 g	USP 61
E. COLI	ABSENT (cfu/10g)	Negative cfu / 10 g	USP 62
PSEUDOMONAS AERUGINOSA	ABSENT (cfu/10g)	Negative cfu / 10 g	USP 62
SALMONELLA	ABSENT (cfu/10g)	Negative cfu / 10 g	USP 62
STAPHYLOCOCCUS AUREUS	ABSENT (cfu/10g)	Negative cfu / 10 g	USP 62
YEAST	NMT 100,000 cfu (Combined)	9,600 cfu / 10 g	USP 2021
MOLD		260 cfu / 10 g	
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	9860 cfu / 10 g	

cfu/g = Colony Forming Units Per Gram NMT = No More Than PDE = Permitted Daily Exposure PPB = Parts Per Billion

Analysis Performed by a Third-Party Laboratory

We are dedicated to offer the best quality of botanical products on the market. We test and stand behind our products.

*Disclaimer * The test results are accurate to the best of our knowledge and are based upon reputable laboratory and industry standard testing methods.*

These results should not be used as a final determination for use in a finished product. It is recommended that you verify these test results with an in-house quality control department or obtain an additional independent third-party lab to verify that this material meets specifications.

Botany Evolution, its board of directors, contract laboratories, employees, and affiliates are held harmless from any loss or damages resulting from the use or misuse of this document. The appropriate use of this product is the sole responsibility of the user of the purchasing party.

Authorized By (Name / Title): Tony Sabeh Manager Signature: Tony Sabeh

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321-802-4583

Certificate Of Analysis

Sample Identification Information

Date of Analysis 1/13/2025

Sample: S2207

Product Name PREMIUM ROOTS

Lot# VPS2412-PR1

Country of Origin VANUATU

Country of Processing USA

Manufacture Date Dec-24

Best By Date Dec-27

General Product Specifications

Product Species Piper Methysticum

Part Used Root

Common Names Kava kava, Awa, Yagona

Appearance Yellow, Brown, beige powder

Analyzed Characteristics

Specification

Result

Test Method

Standardization

2-17% Kavalactones

12.18%

HPLC

Identification

Complies by HPLC

Conform

HPLC

Kavalactone Profile

Noble

PASS

HPLC

Mesh Size

60-30

60

Sieve

Color

Beige to Yellow

Pass

Visual

Odor

Pass

Organoleptic

Taste

Pass

Organoleptic

Chemotype

423165

HPLC

K/DHM

TUDEI < 1.2 > NOBLE

5.3

Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2458.841			
Methysticin	M	1	2.21	734.968	5.90%	0.92%	6
Dihydromethysticin	DHM	2	3.38	441.551	3.54%	0.84%	5
Kavain	K	3	1	7963.555	63.89%	4.49%	4
Dihydrokavain	DHK	4	3.48	1663.639	13.35%	3.27%	2
Desmethoxyyangonin	DMY	5	2.52	776.384	6.23%	1.10%	1
Yangonin	Y	6	3.12	885.316	7.10%	1.56%	3
Kavalactones			Total:	12465.413	100.00%	12.18%	423165

*See data in attachment HPLC1100 Agilent Certificate with Chromatogram graph.

This result are in house tested and the best of our knowledge and experience. Using calibrated equipment.

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Chemist

Kristl Youngs

Date

1/14/25

SAMPLE S2207
Vial 13

0.75524g/50mL

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA_01_13_2025_15MINSTDTESTMETHOD 2025-01-13 17-00-36\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_01_13_2025_ ->

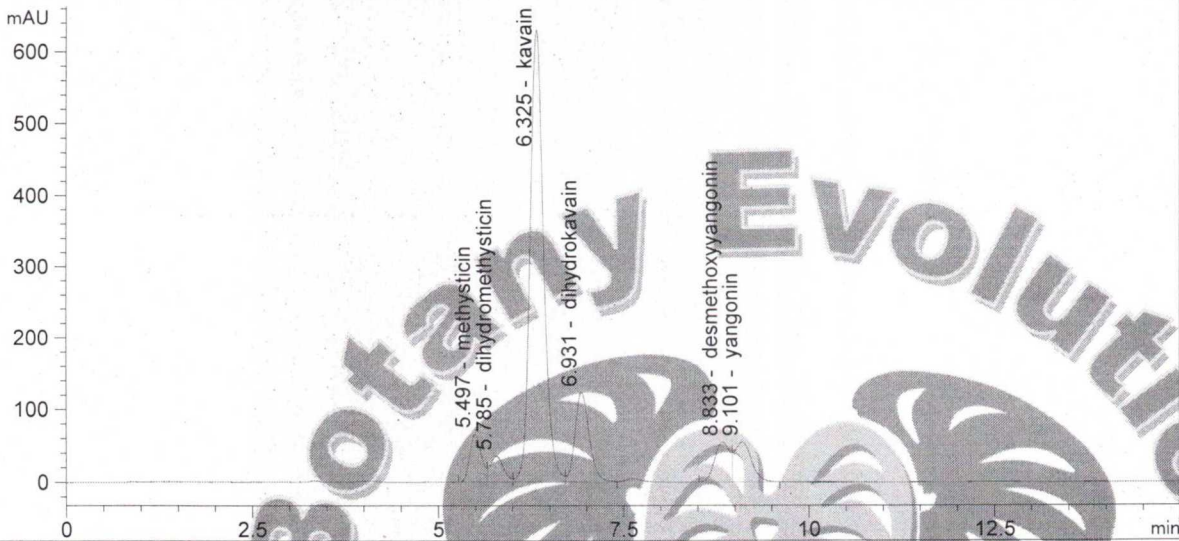
Injection date 1/13/2025

Injection time 9:19:43 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA_01_13_202->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA_01_13_2025_15MINSTDTESTMETHOD 2025-01-13 17-00-36\013-1301.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.497	734.968	5.90	0.000
2	dihydromethysticin	5.785	441.551	3.54	0.000
3	kavain	6.325	7963.555	63.89	0.001
4	dihydrokavain	6.931	1663.639	13.35	0.000
5	desmethoxyyangonin	8.833	776.384	6.23	0.000
6	yangonin	9.101	885.316	7.10	0.000

1/14/25
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